1992

YOKING SCIENCE AND RELIGION
The Life and Thought of Ralph Wendell Burhoe

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FOREWORD BY
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ZYGON BOOKS
CHICAGO

Foreword

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To join mainline religion and science, even to bring the two into amicable dialogue on their respective aims and differences, is something to which many eminent persons and groups have aspired. In the long history of such efforts, however, none appears to have achieved more wide and lasting positive impact than the venture described here by David R. Breed in his account of the thought and life work of Ralph Wendell Burhoe. That venture has included the founding of the Institute on Religion in an Age of Science (IRAS) and the associated *Zygon: Journal of Religion and Science*. Almost from the start, both have received international recognition and respect both in theology and in science, and continue today to furnish a leading ongoing forum for these two great competing systems of belief with their different approaches and different answers to humanity's deepest questions.

The achievements of Ralph Burhoe are all the more remarkable when we remember that religion and science are often categorized as archenemies or the antithesis of one another. They traditionally proceed from different starting assumptions with different frames of reasoning and are widely appraised as "mutually exclusive realms of human thought." In addition, the two disciplines often propound notoriously divergent views on issues in some of society's most sensitive and crucial areas, including that of the sacred. All in all, the sustained success record of IRAS and *Zygon* in bringing religion and science together in constructive discourse is high tribute to the guiding perspectives of their founder and leader.

It is of interest to ask accordingly, What special features in these projects have been responsible for their success where other efforts with quite similar aims have had much less impact? A full in-depth answer would undoubtedly concern a sizable complex of factors with collective interactions. However, I plan in what follows to focus on just two features in Burhoe's guidance that seem to me to have been particularly important that help to set off Burhoe's approach from various other efforts to join religion and science.

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The first feature I have in mind is the stated guiding policy within IRAS and *Zygon* that the effort to join science and religion must be

firmly based on solid mainstream science, not on esoteric fringe activities or minority opinions or theories that might try to pass as science. Burhoe relied on scientific views near what he called "the top center of recent scientific development." In other words, concepts and developments such as Gaia theory, the anthropic principle, morphic fields, the Tao of physics, panpsychism, paranormal phenomena, and other quasi-scientific concepts and views that as yet lack genuine mainstream acceptance must neither be relied upon nor allowed to alter (especially not to dominate) the image, policies, or practice of the effort.

To resist the attractions of such fringe developments, however, is often not easy in the face of ever-present pressures to find more comforting answers than those traditionally advanced by basic science. Over some three centuries fundamental science has depicted a strictly physically driven, mindless, and deterministic cosmos devoid of purpose, value, caring, or higher meaning, a world-picture that reduces the human psyche, and indeed the whole of our existence, to ultimate meaninglessness.

Any possible oversight or chink in the foundations of this stark picture tends naturally to receive eager welcome. A group or institute trying to join science and religion, but also wishing to grow and acquire increased support, is bound to find that potential members and donors are much more attracted when the rigorous mainstream standards are relaxed. Once such a trend gets started, however, it tends to snowball through subsequent decisions and planning to swing ever further from basic science. The predictable result is to degrade the project's credibility and the main significance of the whole effort to join science and religion.

The essence and strength of science demands rigorous adherence to time-tested principles. The policy in IRAS and *Zygon* to stand firm in this regard would seem to have contributed in no small part to their continuing sound standing and high professional regard.

What about such a policy, however, during the occasional rare period of revolutionary transition when mainstream science is undergoing a shift in its foundational concepts—for example, as in the time of Copernicus or Darwin? In such a transition period, how long does one hold to the old established paradigm before accepting the new? At what point does a growing radical fringe development qualify as fundamental mainstream science?

The question becomes of increasing concern today in view of mounting indications that science currently is undergoing just such a genuine shift in its basic paradigm for causal explanation. Traditional reductive physicalism, with its atomistic, microdeterministic interpretations of both human and nonhuman nature, is increasingly being challenged

and displaced in many areas of science by a new antireductive, wholistic, and mentalistic epistemology.

The emerging new antireductive paradigm had its start in a revolt in behavioral science, a revolt that turned around the previous acausal status of mind and consciousness (the so-called cognitive, mentalist, or consciousness revolution of the early 1970s). This conceptual turnabout, putting conscious, subjective qualities in a new causal role, was achieved, however, only by invoking a different concept of causal determinism—in effect, by changing the rules and framework for causal explanation.

Instead of assuming physical reality to be fully understood and completely determined through its parts from below upward, the new outlook claims that things are also causally determined from above downward by emergent supervenient properties that are irreducible. This "double-way" principle of causality has wide application throughout nature at all levels and, accordingly, has since been gaining acceptance in many other areas. In other words, what started as an intradisciplinary revolt seems now to be turning into a major paradigm shift throughout science.

Already this shift has reached a stage where one finds it difficult to judge whether the new model or the old reductive physicalism ought to be accepted as the dominant explanatory paradigm of mainstream science. Among the more visible advances to date, the new paradigm has alrady served for some two decades as the reigning foundational doctrine in behavioral science. It has come into extensive use also in the related human and social sciences, has transformed general systems theory and become its dominant feature, has attained dominance also in the field of animal awareness, and has made strong impacts in evolutionary theory and epistemology. It has led to a "new science of life," a new "hierarchy theory," and what has been called a new "science of qualities." More recently, it has begun to be adopted also within neuroscience and to penetrate via chaos and computer science even into physics, the recognized stronghold of reductive physicalism. Many of these foregoing developments with their implications are today being welcomed in a so-called postmodern movement in theology.

The double-way or macro-mental view of causality upholds a vastly revised scientific cosmology that is enormously more amenable than that of traditional physicalism to the yoking of science and religion. A subjectivist and wholistic epistemology turns around the long-accepted science-value dichotomy and suggests a new answer for the age-old paradox of free will and determinism, an answer that blends both determinism and free will in a new framework and preserves moral responsibility.

In view of such changes, can science today still be said to depict an

atomistic, quantum mechanics universe? Or, has science moved to a new world picture in which emergent mental and other macro properties are causal, irreducible, and ineliminable, a new paradigm that logically legitimates the derivation of ultimate value from the worldview of science? What position has Burhoe maintained during this transitional period; and what has been the effect on policy in IRAS and *Zygon*?

Burhoe himself was close to this paradigm shift at its start. He was present at its first public expression in a lecture series entitled "New Views of the Nature of Man," presented in the spring of 1965 at the University of Chicago and organized by the futurist-physicist John Platt. This is where I first met Ralph Burhoe, introduced by a mutual friend, Dwight Ingle, during refreshments in a quiet spot after the lecture.

Burhoe himself at about this time published his own suggestions concerning a wholistic epistemology, elaborated in a fashion that acknowledges the "double-way" principle of causality. He focused on a hierarchic view of values in which life, or "viability" is the primary, highest, or ultimate value. Burhoe conceived the hierarchic value system to be evolved in five successively higher, more complex, stages via natural selection in a self-organizing "negentropic" process of emergent evolution. Starting with the genotypic, the determinants rise through cerebral, cultural, rational, and finally, at the top, the scientific, which he placed above theological rationalizing. The higher, more evolved values must conform with their genotypic foundation but at the same time may supersede and control the lower-level determinants. Burhoe did not himself raise the involved reductionist-wholistic issues which at that time were still in a period of relative neglect but, within a few years, would explode into a new prominence that continues today.

Judging from Burhoe's comments at the 1965 lecture series and also from his subsequent writings, one may infer the presence of another feature in his guidance that also helped to steer a carefully mixed middle course amenable both to religion and to science. The strategy in this case consists in taking care to stay clear of embroilments in the underlying philosophical issues where science and religion pointedly differ and where oftentimes the antagonisms are most intense and the viewpoints most incompatible.

Rather than probe the pros and cons of such philosophic underpinings, Burhoe has preferred to take science and its tenets at the going face value, meanwhile applying himself to relatively neutral issues such as an improved scientific explanation of altrusim. Whether conscious and intentional or more an intuitional sense of how best to achieve his aim, this strategically wise detachment was manifest also on another occasion in reference to the then-prevailing philosophic

bans against the derivation of ethical or moral values from the facts of science.

The long-accepted fact-value dichotomy now becomes logically reversed in the new mentalist paradigm which integrates science and values in a whole new scientific interpretation of the status, role, and objective power of subjective values in determining the course of human affairs. The revised new outlook can be seen to have particular relevance in the context of our mounting global crises and threats to survival.

I tried to spell all this out more explicitly for the first time in a manuscript submitted early in 1972 to editor Dwight Ingle in Chicago, where Ralph Burhoe, his friend and colleague, would presumably be a principal (and predictably sympathetic) referee. Though Burhoe's career-long efforts to merge science and religious values gained strong reinforcement and new heightened urgency in these arguments and took on a new vigor, Burhoe himself consistently avoided tying his envisioned goal to any new philosophic polemic.

Again, this seems to have been the wiser course in the light of subsequent developments. Immediate reactions to the proposed new outlook by both ethicists and scientists consisted predominantly of heated rejection. Only slowly over the years have the rejections gradually became dissolved; now they have turned around in what is recognized as a new era in respect to the treatment of values.

Looking back, we see that Burhoe's effort to join science and religious values was launched during a period when the leading philosophic doctrine of the day, not only within professional philosophy but widely shared also in science and among the thinking public at large, proclaimed that what Burhoe was proposing to do could not be done: Values, we were taught, "cannot be derived from the facts of science." "Science can tell us *how* but not *why*." "The *naturalistic fallacy* is inescapable." "Values lie beyond the realm of science." "Scientific determinism abolishes free will, choice, and thus any moral responsibility"—and so on. Such deterrents and the related back-up thinking of the kind that prevailed in the 1950s and '60s agreed in predicting that a task of the kind Burhoe envisioned was not merely unconventional and difficult; it was logically impossible.

Today, prevailing opinion on these same issues, swayed by the new emergent and subjectivist principles of two-way causal explanation, has undergone a diametric turnaround. In some ways the consciousness revolution might equally well be called a values revolution. In any case, our currently prevailing mainstream opinion tells us that Ralph Wendell Burhoe's aim, holding firm against shifting winds in philosophy and pragmatically centered in science as it is practiced, has been from the start in the right direction.